Defining Seagrass Target Areas in Sarasota County Estuarine Waters

18 August 2006

Objective

Use existing information and best professional judgment to identify the likely historical extent of seagrass habitats in the estuarine waters of Sarasota County

Part 1

Description of Existing Seagrass Habitat Based on SWFWMD Mapping

Descriptive Statistics for Existing Seagrass Data

- Step 1: Generate a 45m X 45m grid layer for all Sarasota estuarine segments
- Step 2: Assign a depth to each grid cell
- Step 3: Overlay SWIM seagrass coverages on the bathymetry and grid layers
- Step 4: Identify those grids that have seagrass for each SWIM survey year
  - (inclusion criteria = 50% of grid area)

Descriptive Statistics for Existing Seagrass Data

- Using empirical data, we generated statistics on the frequency of occurrence of seagrass for each cell
- We generated statistics on frequency of occurrence as a function of depth
- We calculated a cumulative distribution of seagrass as a function of cell depth for each survey year

Part 2

Identification of the Likely Historical Extent of Seagrasses

Tools

- SWFWMD SWIM Aerial Seagrass Surveys (1988-2004)
- 1950's digitized aerial photography
- Bathymetry (NOS soundings - 1950's)
- Local Knowledge

Goals

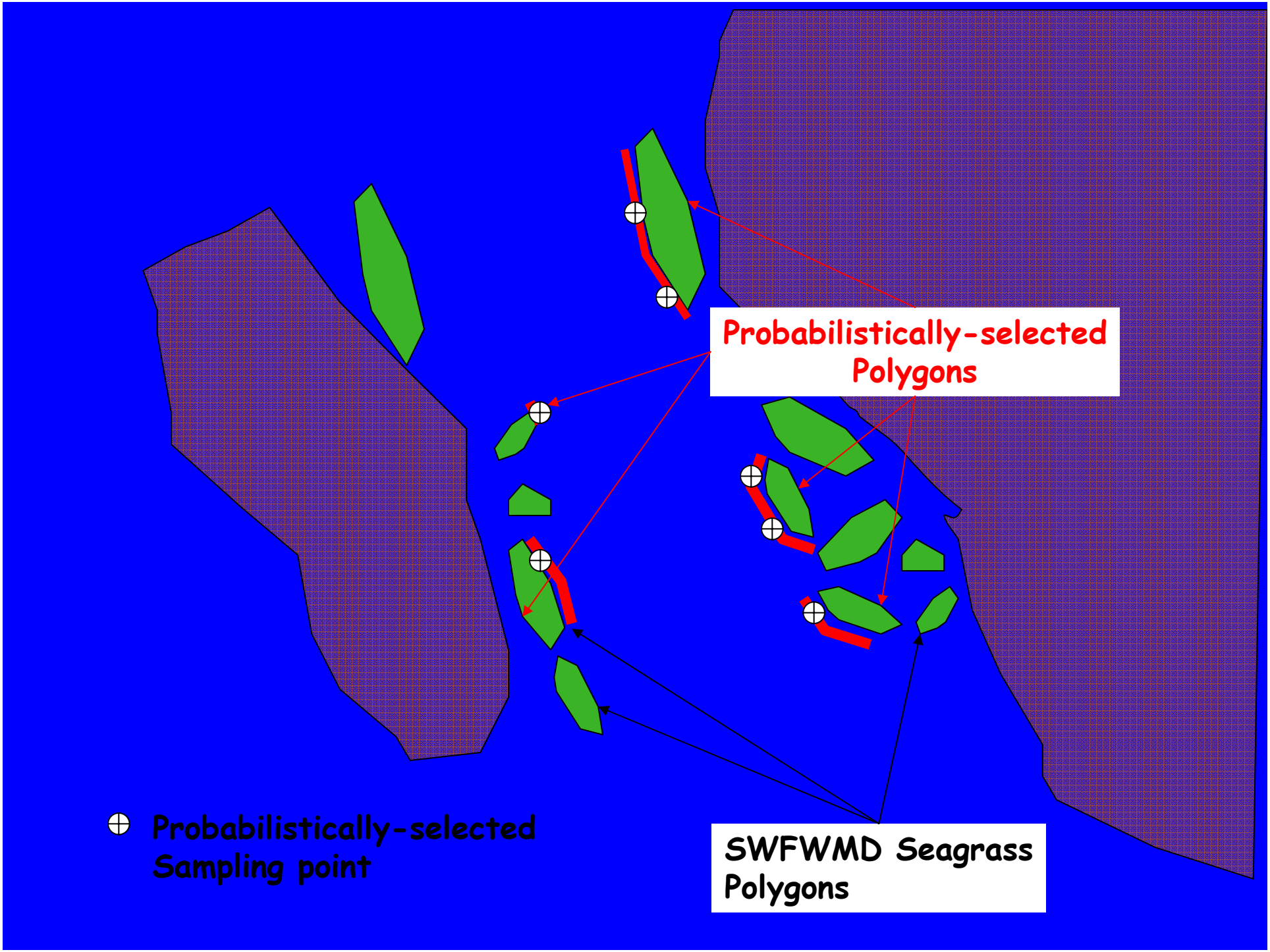
- Based on existing data, identify the likely historical extent of seagrass habitat given appropriate environmental conditions (i.e., light)
- Use professional judgment to identify additional areas where seagrasses were likely found
- Use the 1950's coverage as a calibration tool to compare against the findings using the above mentioned techniques

Calibration Tool

- Once the likely historical seagrass extent is established using existing data and local knowledge, the 1950's seagrass coverage will be used to compare to the extent derived using the methods above

Part 3

Seagrass Deep Edge Sampling Design


Probabilistically-selected Polygons
Probabilistically-selected Sampling point
SWFWMD Seagrass Polygons

4 Strata

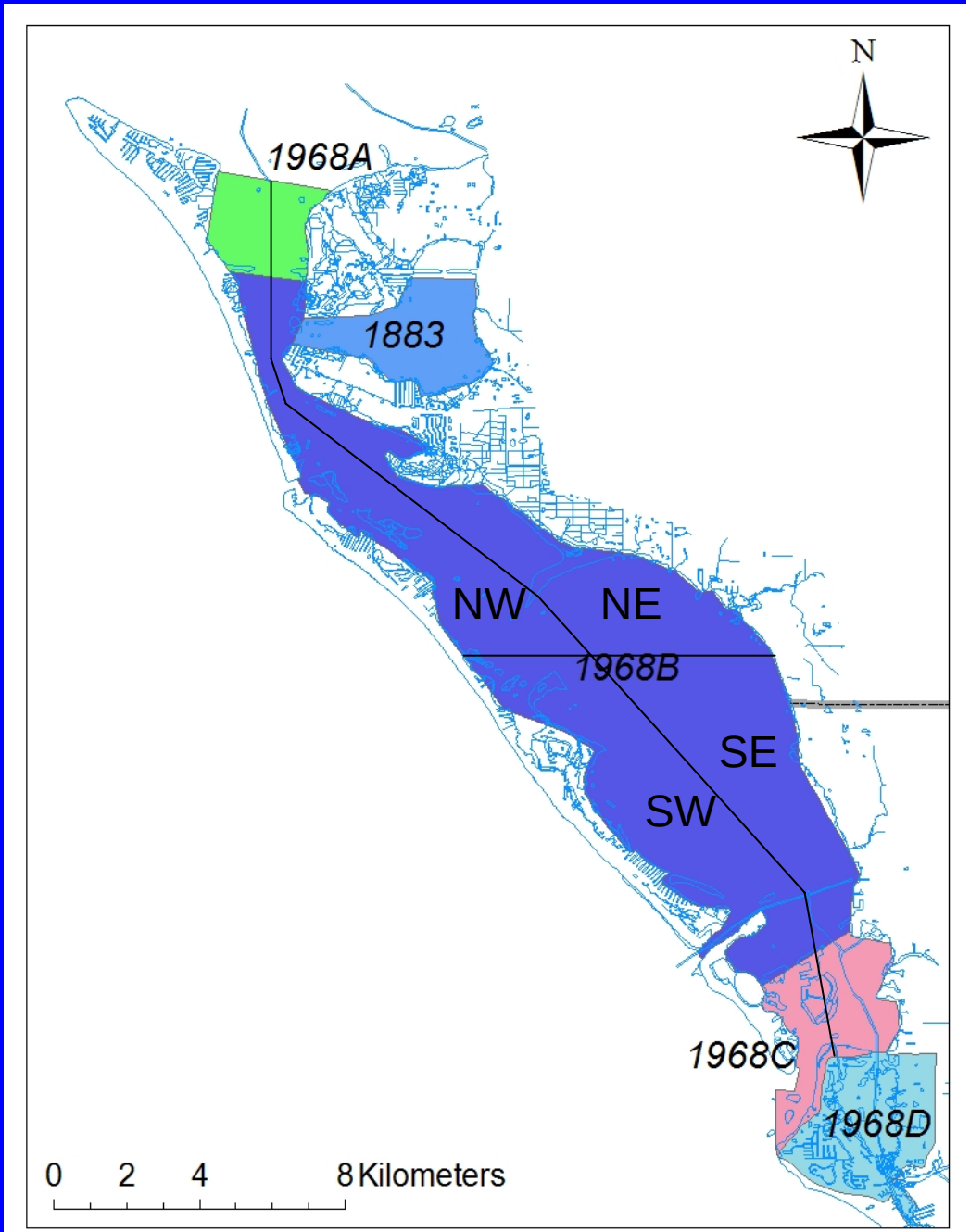
Random selection
of points within stratum

Estimated 6 sites per day

Total of sixty samples

Quantify:

- Depth
- Light attenuation
- Presence
- Seagrass type
- Sediment type



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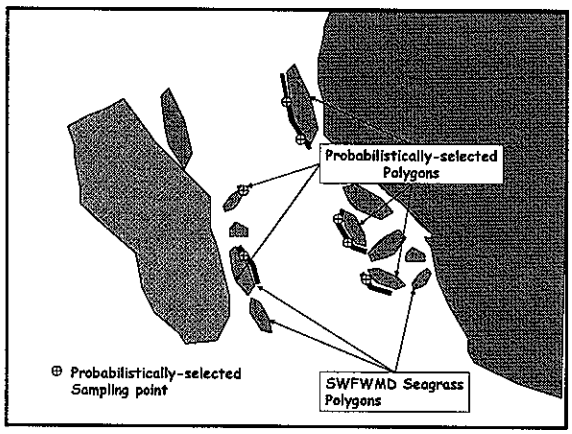

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